UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _11 March 2009_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-13,15 and 17-46_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-13 and 17-46_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _12/24/08, 3/11/09_.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

This action is taken in response to remarks and amendments filed on 3/11/2009.

Claims 1-13, 15, and 17-46 are pending in this Office Action. Claims 1, 13, 15, and 28

are independent claims.

Information Disclosure Statement

The Information Disclosure Statement(s) received on 12/24/2008 and 3/11/2009 are in

compliance with provisions of 37 CFR 1.97.   Accordingly, the Information Disclosure

Statement(s) are being considered by the examiner.

Terminal Disclaimer

The terminal disclaimer filed on 3/11/2009 disclaiming the terminal portion of any patent

granted on this application which would extend beyond the expiration date of US Patent

7,457,933 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Amendments

In view of the amendment to the specification, the Examiner withdraws the USC 112 2nd

rejection given in the previous Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 13, 15, and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites, "locking the data object in the first storage location by storing the ID in a first lock object,...", the relevant discussions as indicated by applicant appear in the specification at page 14, lines 3-13 and page 15, lines 15-24, where it states:

If no P -lock exists, it is checked in steps 305 and 306, whether the data object is archiveable. Such checking comprises a test whether the data in the data object is readable, complete, not fraught with obvious failures, etc. If the test is successful, a P -lock is set on that data object in step 307, whereby no archive file is assigned to the data object. Then the T -lock is deleted (step 308) and the next data object is selected (step 309).

If no P -lock exists on that object, it is checked in step 605, whether the data object is archiveable. If this check fails (step 606), the T -lock is deleted (step 609), and the next data object is selected (step 610). If the check is positive, the data object is stored (step 605) in an archive file, a P -lock is set (step 608) with the archive file assigned, the T -lock is deleted (step 609) and the next data object is selected (step 610).

Please noted, based on the instant speciation, "a lock object is a data object, in which the identifiers are stored" (page 8, lines 21-22) and "a first type ID is called a P -lock (permanent) and a second type ID is called a T -lock (transactional). So, setting a P- or T -lock for a selected object means to store an ID of that object in a respective lock object" (page 13, lines 7-11). No

where in the specification, it discloses whether data object is locked by either checking P-lock or

T-lock. Therefore, "locking the data object in the first storage location by storing the ID in a first

lock object" is not supported in the Specification as filed.

Claims 13, 15 and 28 recite similar limitations and are rejection with the same reasons as

claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-13, 15, 18-28, and 30-46 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ohran (US 5,835,953) in view of Bridge (US Patent 6,880,102).

As per claim 1, Ohran disclose **a method for moving data objects in a computer**

system from a first storage location to a second storage location, the method comprising:

selecting a data object having an identifier (ID) from the first storage location (Fig.

7A, 22, items 3b, 4b, 6a, col. 5, lines 49-51, identifies those storage locations that have new data

written);

storing the ID in a second lock object (Fig. 3, 52, Fig. 7A. 140, col. 11, lines 30-33,

snapshot map reads on second lock object);

determining whether the ID is stored successfully in the second lock object (snapshot

map) **and, upon a successful storage, [locking the data object in the first storage location by**

] storing the ID in a first lock object (backup map), **thereby indicating that the data object is**

stored at the first storage location (Fig. 7A, 140, 142, col. 23, lines 27-30, lines 58-60,

snapshot map is copied to the backup map. In FIG. 7A, this means that map locations 140 are

copied into map locations 142 of backup map 48, please note that "locking" is taught by Bridge

as discussed below);

deleting the ID from the second lock object after the ID has been stored in the first

lock object (Fig. 4, 70, 72, col. 17, line 56-57, col. 18, lines 8-10, copy the snapshot map into the

backup map, After the snapshot map has been preserved so that it can be used as the backup

map, the next step is to clear the current snapshot map);

storing the data object, at the second storage location (Fig. 7B, 154, col. 25, lines 9-

11, In FIG. 7B, data blocks 152 are received by the backup system and applied to storage

locations 124 to achieve storage locations 154. Storage locations 154 are identical to storage

locations 138 of the primary system, FIG. 7A);

deleting the data object, from the first storage location (col. 18, lines 18-24, clear

snapshot storage); **and**

deleting the ID from the first lock object, thereby indicating that the data object is

not stored at the first storage location, after the data object has been deleted from the first

storage location (Fig. 7A, 142, 160, 162, blocks 3b, 4b, and 6a have been moved to the backup

system, backup map are updated once data are moved to backup system, where map locations

162 of backup map 48 are changed to be the same as map locations 160 of snapshot map 52, i.e.

ID for blocks 3b, 4b, and 6a are deleted).

Ohran discloses storing the ID in a permanent type data object (i.e. a backup map) to

copy the data object to a second storage location as noted above but does not explicitly disclose

locking the data object by storing the ID in a first lock object.

Bridge discloses moving data from one disk drive to another by locking an extent for I/O

and then copying it (col. 2, lines 14-16, col. 8, lines 53-59).

It would have been obvious to one skilled in the art at the time of the present invention to

modify the method of Ohran to include lock as taught by Bridge in order to prevent data

inconsistencies from occurring during the move (Bridge, col. 2, lines 14-16).

Therefore, the combination of Ohran and Bridge teaches "**locking the data object in the**

first storage location by storing the ID in a first lock object" (see Ohran, Fig. 7A, 126, col.

11, lines 49-56, col. 23, lines 58-60, and see Bridge, col. 2, lines 14-16, col. 8, lines 53-59).

As per claim 3, Ohran discloses the method of claim 1, wherein the data object is stored

in a file and wherein an assignment of the ID to the file or to a name of the file, is stored in the

first lock object (Fig. 3, 20, 48).

As per claim 4, Ohran discloses the method of claim 1, wherein the first lock object is stored on a nonvolatile storage means (col. 8, lines 54-65).

As per claim 5, Ohran discloses the method of claim 1, wherein the ID is stored in the second lock object after selecting the data object from the first storage location (Fig.7A, 136, 140, col. 23, lines 8-18).

As per claim 6, Ohran discloses the method of claim 1, wherein the ID is stored in the second lock object before the data object is stored at the second storage location (Fig. 7A, 140).

As per claim 7, Ohran discloses the method of claim 1, wherein storing the ID in the first lock object further comprises: storing IDs of other data objects stored in the first lock object before storing the data object at the second storage location (Fig. 7A, 142).

As per claim 8, Ohran discloses the method of claim 1, further comprising: checking whether the ID for the data object has been stored in the first lock object and if the ID has been stored, skipping storing the data object at the second storage location (Fig. 7A, 142, items 1, 2, 5 are not selected for transfer).

As per claim 9, Ohran discloses the method of claim 1, further comprising: checking whether the data object is contained in the second storage location and if the data object is contained in the second storage location, skipping storing the data object at the second storage location (Fig. 9, 194, col. 22, lines 24-30).

As per claim 10, Ohran discloses the method of claim 9, wherein the checking is performed by querying the first lock object (Fig. 7A, 142, col. 21, lines 56-60).

As per claim 11, Ohran discloses the method of claim 1, further comprising: checking whether the data object has been stored in the second storage location, and if the data object has not been stored, skipping deleting the data object form the first storage location and skipping deleting the ID from the first lock object (Fig. 7B, 26, 154, col. 27, lines 4-20, col. 28, lines 53-57, after a crash, then difference identification block 58 can store the results of the compare in snapshot map 52 or backup map 48).

As per claim 12, Ohran discloses the method of claim 1, for use in an enterprise resource planning software (col. 12, lines 46-51).

As per claim 13, is directed to a system claim carrying instructions for performing the method of claim 1 and is rejected along the same rationale.

As per claims 15, 18-26, are directed to a computer readable medium carrying instructions for performing the methods of claims 1, 3-11 respectively and therefore rejected along the same rationale.

As per claim 27, Ohran discloses the computer readable storage medium of claim 15, wherein the computer readable medium is provided as part of a computer program product (col. 7, lines 49-65).

As per claims 28, 30-38, are directed to system claims carrying instructions for performing the methods of claims 1, 3-11 respectively and therefore rejected along the same rationale.

As per claim 39, Ohran discloses the method of claim 1, wherein storing the ID in the second lock object indicating that an action is being performed on the data object (Fig. 7A, 22, items 3b, 4b, 6a, col. 5, lines 49-51, identifies those storage locations that have new data written).

As per claim 40, Ohran discloses the method of claim 39, wherein deleting the ID in the second lock object indicating that the action is not being performed on the data object (Fig. 7A,140, items 1, 2, 5 not shaded for old data, i.e. no action is performed).

As to claims 41-42, are directed to a computer system claim carrying instructions for performing the method of claims 39-40 and therefore rejected along the same rationale.

As to claims 43-44, are directed to a computer readable medium carrying instructions for performing the method of claims 39-40 and therefore rejected along the same rationale.

As to claims 45-46, are directed to a computer system claim carrying instructions for performing the method of claims 39-40 and therefore rejected along the same rationale.

Claims 2, 17, and 29 are rejected under 35 U.S.C. 103(a) being unpatentable over Ohran and Bridge in view of Cabrera et al. (US 6,269,382, hereinafter Cabrera).

As per claim 2, Ohran in view of Bridge does not explicitly disclose wherein the data object comprises one or more fields of one or more tables, and wherein the ID comprises one or more key fields of the one or more tables.

Cabrera discloses wherein the data object comprises one or more fields of one or more tables, and wherein the ID comprises one or more key fields of the one or more tables (Figs. 4, 10, col. 20-15, in the form of an index into a data table, such as remote data table 92 of FIG. 4 or any other information that allows the migration state to be determined).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of the cited references because Cabrera's teaching would have allowed Ohran and Bridge's to backup database table based on the key/index.

As per claim 17, is directed to a system claim carrying instructions for performing the method of claim 2 and is rejected along the same rationale.

As to claim 29, is directed to a computer system claim carrying instructions for

performing the method of claim 2 and therefore rejected along the same rationale.

Response to Amendment and Remarks

Applicant's arguments have been fully and carefully considered but are moot in view of

the new ground(s) of rejection. Refer to the corresponding sections of the claim analysis for

details.

Conclusion

Applicant's amendment necessitated the new grounds of rejection presented in this Office

Action. Accordingly, **THIS ACTION IS MADE FINAL.** Applicant is reminded of the

extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Shew-Fen Lin whose telephone number is 571-272-2672. The

examiner can normally be reached on 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

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like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Shew-Fen Lin /S. L./
Examiner, Art Unit 2166
May 2, 2009

/Hosain T Alam/

Supervisory Patent Examiner, Art Unit 2166